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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,853	08/26/2003	Lawrence D. Brill	60,130-1844;03MRA0338	7014
26096	7590	09/30/2005		
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			EXAMINER WEBB, TIFFANY LOUISE	
			ART UNIT 3616	PAPER NUMBER

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,853

Applicant(s)

BRILL, LAWRENCE D.

Examiner

Tiffany Webb

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/31/05, 12/8/03
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the differential in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Art Unit: 3616

2. Claim 13 is objected to because of the following informalities: in line 3 of the claim it says "and -wherein said second axle". The examiner suggests changing to "and wherein said second axle." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 is unclear because it refers to an axle shaft then further says that an axle shaft must have two axle shafts. It is unclear to what is meant in the claim. The examiner suggests clarifying the number of axles that are included in the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2 and 4-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US 3,035,665). Regarding claim 1, Lee discloses a driving input (14), a first wheel assembly and a second wheel assembly which are laterally spaced apart (34), an axle housing underneath a vehicle floor (36), and an axle shaft positioned above an axle housing and coupled to a driving input and to a wheel assembly (42). Further regarding

Art Unit: 3616

claim 2, Lee discloses an axle housing (36) including an external surface facing the vehicle floor and an enclosed cavity, as broadly claimed and the examiner has interpreted the enclosed cavity to be a cavity with an inner and outer portion, wherein the central portion of the axle is outside of the enclosed cavity. Regarding claim 4, Lee discloses having a driving input laterally closer to one wheel assembly than a second wheel assembly and having an axle which is couple at the driving input and connected at the second wheel assembly with an exposed central portion (32, 168, and 42).

Further regarding claim 5, Lee discloses having the ends of the axle shaft being enclosed within an axle housing, as broadly claimed, where the examiner has interpreted that the axle shaft ends are surrounded by the yokes (52a and 38) connected that are connected to the axle housing (36). Further regarding claims 6 and 14, Lee discloses having ring seals (192 and 194) for engagement with the axle housing. Regarding claim 7, Lee discloses having a second shaft extending from the driving input to a wheel assembly (170). Regarding claim 8, Lee discloses having an axle shaft that is non-collinear with a wheel axis of rotation (see Figure 3). Regarding claim 9, Lee discloses a driving input, a first axle shaft coupled to a gear box (170, 98, 62, and 64) and a driving input, a first wheel assembly driven by a gear box (See Figure 5), a second axle coupled to a gear box and a driving input and is longer than a first axle (42, 62, and 64), a second wheel assembly driven by a second gear box (34, 58, 62, 64), and an axle housing under a vehicle floor between gear boxes where the axle housing is defined to be an enclosed cavity with the axle directly above the housing (36). Further, regarding claim 10, Lee discloses a wheel axis of rotation and an axle

Art Unit: 3616

axis of rotation that are parallel and spaced apart (see Figure 3). Regarding claim 11, Lee discloses a driving input comprising a differential (32) driven by a power source and positioned closer to a first wheel assembly than to a second wheel assembly (see Figure 3). Further, regarding claim 12, Lee discloses a first axle shaft having one end enclosed in an axle housing (170) and a second end within a gear box (132). Regarding claim 13, Lee discloses a second axle with ends that are enclosed with the enclosed cavity of an axle housing (32 and 44) with an exposed central portion (42) underneath a vehicle floor.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. If a more narrow interpretation of enclosed cavity was intended by the applicant then, claims 2, 5-7 and 9-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 3,035,655) in view of Menarini (EP 0 456 096). Lee is discussed above and broadly teaches an enclosed cavity (see item 5 above) with an interior surface and an external surface facing the vehicle floor. As discussed, if a more narrow interpretation is considered then, Menarini discloses an enclosed cavity of a housing (11, 25, and 26). Menarini teaches using an enclosed cavity around the ends of the shafts and gears to prevent dirt from getting into them and to keep them lubricated. It

Art Unit: 3616

would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided an enclosed cavity around ends of shafts and gears in the system of Lee in order to provide a protection system for the shafts and gears in the system.

Allowable Subject Matter

8. Claims 3 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are portal axle configurations: Hayes et al. (US 6,843,746) and Szalai et al. (US 5,433,287). The following are low floor vehicles with off center drive axles: Wales (US 1,475,331), Bennett et al. (US 6,793,035), Varela (US 6,871,723), and Varela et al. (US 6,886,655).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Webb whose telephone number is 571-272-2797. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3616


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tiffany Webb
Examiner
Art Unit 3616

tlw

**RUTH LAN
PRIMARY EXAMINER**


9/28/05